



Australian Government

Australian Transport Safety Bureau

Ground injury involving Cessna 182

Lower Light, South Australia, on 10 July 2022

ATSB Transport Safety Report

Aviation Occurrence Brief

AB-2022-005

Final – 16 December 2022

AB-2022-005

Occurrence Briefs are concise reports that detail the facts surrounding a transport safety occurrence, as received in the initial notification and any follow-up enquiries. They provide an opportunity to share safety messages in the absence of an investigation.

What happened

On 10 July 2022, a group of skydivers were preparing for a jump that was to be filmed by an instructor.

At about 0850 local time, the pilot of the Cessna 182 taxied the aircraft to the passenger emplaning area and prepared to hot load¹ the skydivers. The proposed jump had an instructor positioned either side of the student in the doorway and a third instructor located outside the aircraft to capture the groups freefall. The group conducted a practice exit before the instructor filming repositioned themselves in front of the wing strut to show the student where they would be located when they completed the jump.

The pilot, recognising the instructor's proximity to the spinning propeller, attempted to get their attention. The instructor filming was focussed on the jumpers and took a small step backwards towards the propeller at which point the pilot immediately shut down the engine. The instructor took another step backwards and away from the fuselage of the plane to simulate their own freefall and their hand was struck by the propeller. Although the engine had been shut down, the propeller was still spinning. The instructor received serious injuries to their hand.

Guidance on hot loading

Hot loading is a common practice in skydiving operations. Guidance provided by the Australian Parachuting Federation² (APF) to its members in the [Jump Pilot Manual](#), included the warning that

The jump pilot faces a greater risk of having someone walk into the propeller than does a pilot working in any other environment.

To mitigate the risk of this happening, the manual suggested that skydivers and staff should approach the aircraft from the rear where possible. Skydivers and instructors were taught to be propeller aware with posters from the APF warning of the dangers associated with spinning propellers. Additional procedures for movement around aircraft were left to the operator. In this instance, the operator's procedures specified that any task that required a person to be positioned forward of the wing strut was to be conducted on a mock-up airframe or with the engine shutdown.

Regulatory changes

The loading of passengers with engines running and the requirement to brief passengers for this particular activity was previously covered in Civil Aviation Orders section 20.9.5 (CAO). Following CASA's regulatory framework reform, numerous CAO were incorporated into Part 91—General operating and flight rules and Part 138—Aerial work operations, of the Civil Aviation Safety Regulations 1998 (CASR). Part 105 of the CASR set out the operational requirements for aircraft used to facilitate parachute descents. These were in addition to Part 91 which also applied to parachuting operations.

While hot loading was covered in Part 138, there were no regulations that applied to the loading of passengers with engines running during skydiving operations in Part 91 or Part 105. CASA advised the ATSB that while less prescriptive than the previous regulation set, the practice of hot loading would be accepted if certain requirements were met:

¹ Hot load: a term that refers to the practice of loading passengers onto the aircraft while the engines are still running.

² Australian Parachute Federation: the national governing body for skydiving in Australia.

CASR 91.055 is of general application and requires the pilot in command to not create a hazard to other aircraft, persons, or property. The hazards of loading passengers while the engines are running are significant and CASA would not see this activity as being able to be safely achieved without creating a hazard unless it was conducted by an operator with the organisational structure and procedures to adequately manage those hazards in the context of the operation.

The APF produced guidance material for parachuting operators with the requirements for safety on the ground contained within a number of manuals, including the Training Operations Manual and the Jump Pilots Manual.

Safety action

The operator advised the ATSB that they have taken the following safety action in response to this accident:

- Banned jumpers from conducting practice exits from the aircraft while the engine is running.
- Mock-up aircraft cabin is planned for refurbishment to facilitate practice exits.
- Ground control officer has been made responsible for supervising the boarding of aircraft
- Safe routes to the loading area have been defined.
- Signage refurbished and placed in prominent areas warning of the dangers associated with propellers.
- Conducted briefings with all regular jumpers and staff about the seriousness of this incident and re-iterated the importance of remaining vigilant in the vicinity of aircraft.

Safety message

Hot loading is a common practice in parachuting operations and the commercial benefits of not shutting down an aircraft's engines needs to be measured against the increased risk to the proposed activity. Clear and workable procedures are critical in ensuring the risk is reduced to as low as reasonably practicable.

In this accident, the instructor was in a hazard-rich environment completing a task that did not necessitate the engine to be running at the time. In addition to a knowledge and understanding of risks present in the operational environment, crew must be especially vigilant in the vicinity of operating aircraft.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, no investigation has been conducted and the ATSB did not verify the accuracy of the information. A brief description has been written using information supplied in the notification and any follow-up information in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.

General details

Occurrence details

Date and time:	10 July 2022 – 0850 CST	
Occurrence class:	Accident	
Occurrence categories:	Other Ground operations	
Location:	Lower Light, South Australia	
	Latitude: 34° 30.966' S	Longitude: 138° 25.483' E

Aircraft details

Manufacturer and model:	Cessna Aircraft Company 182H	
Type of operation:	Part 105 Parachuting	
Activity:	General aviation / Recreational-Sport and pleasure flying-Parachute dropping	
Departure:	Lower Light, South Australia	
Destination:	Lower Light, South Australia	
Persons on board:	Crew – 1	Passengers – 4
Injuries:	Crew – 0	Passengers – 1 serious
Aircraft damage:	Nil	